

## CLAIMS

What is claimed is:

1. A method comprising:

selecting a packet;

determining a binary number corresponding to the priority of the selected packet,

wherein the binary number comprises N digits;

contending for packet transmission, wherein the period of contention lasts N slot intervals.

2. The method of claim 1 wherein contending for packet transmission comprises:

transmitting a bit for each one of the N digits of the binary number that is non-zero;

sensing the communications medium during a time interval corresponding to each one of the N digits of the binary number that is zero.

3. The method of claim 2 wherein transmitting a bit comprises transmitting a bit, during

one slot interval, for each one of the N digits of the binary number that is non-zero; and

wherein sensing the communications medium comprises sensing the communications

medium for one slot interval corresponding to each one of the N digits of the binary number

that is zero.

4. The method of claim 1 wherein determining the binary number corresponding to the

priority of the selected packet comprises determining the binary number corresponding to the

priority of the selected packet, wherein a priority parameter of an MA-UNITDATA.request

primitive contains the priority of the selected packet.

- 1 5. The method of claim 1 wherein selecting a packet comprises selecting a highest  
2 priority packet that is ready to be transmitted.
- 1 6. The method of claim 1 wherein determining the binary number corresponding to the  
2 priority of the selected packet comprises determining a two digit binary number.
- 1 7. The method of claim 1 wherein determining the binary number corresponding to the  
2 priority of the selected packet comprises determining a three digit binary number.
- 1 8. The method of claim 6 wherein contending for packet transmission comprises:  
2 A) selecting a most significant digit of the two digit binary number;  
3 B) determining whether the selected digit of the binary number is zero or non-zero;  
4 C) transmitting a bit, during one slot interval, if the selected digit of the binary  
5 number is non-zero;  
6 D) sensing the communications medium, during one slot interval, if the selected  
7 digit of the binary number is zero;  
8 E) ceasing to contend for packet transmission if another bit is detected while sensing the  
9 communications medium;  
10 F) selecting a least significant digit of the binary number if another bit is not detected  
11 while sensing the communications medium or if the most significant digit of  
12 the binary number is non-zero;  
13 G) repeating processes B through E on the least significant digit if the least significant  
14 digit is selected.
- 1 9. An article of manufacture comprising:

2 a machine accessible medium providing content that, when accessed by a machine, causes  
3 the machine to:

4 select a packet;

5 determine a binary number corresponding to the priority of the selected packet,

6 wherein the binary number comprises N digits;

7 contend for packet transmission, wherein the period of contention lasts N slot

8 intervals.

1 10. The article of manufacture of claim 9, wherein the machine readable instructions, that  
2 when executed by a machine, cause the machine to contend for packet transmission  
3 comprises machine readable instructions, that when executed, cause the machine to:

4 transmit a bit for each one of the N digits of the binary number that is non-zero;

5 sense the communications medium during a time interval corresponding to each one  
6 of the N digits of the binary number that is zero.

1 11. The article of manufacture of claim 10, wherein the machine readable instructions,  
2 that when executed by a machine, cause the machine to contend for packet transmission  
3 comprises machine readable instructions, that when executed, cause the machine to:

4 transmit a bit, during one slot interval, for each one of the N digits of the binary  
5 number that is non-zero;

6 sense the communications medium for one slot interval corresponding to each one of  
7 the N digits of the binary number that is zero.

1 12. The article of manufacture of claim 9, wherein the machine readable instructions, that  
2 when executed by a machine, cause the machine to determine the binary number comprises  
3 machine readable instructions, that when executed, cause the machine to:

4           determine the binary number corresponding to the priority of the selected packet,  
5   wherein a priority parameter of an MA-UNITDATA.request primitive contains the priority of  
6   the selected packet.

1   13.    The article of manufacture of claim 9, wherein the machine readable instructions, that  
2   when executed by a machine, cause the machine to determine the binary number comprises  
3   machine readable instructions, that when executed, cause the machine to:

4           determine the binary number corresponding to the priority of the selected packet,  
5   wherein the binary number comprises two digits.

1   14.    The article of manufacture of claim 13, wherein the machine readable instructions,  
2   that when executed by a machine, cause the machine to contend for packet transmission  
3   comprises machine readable instructions, that when executed, cause the machine to:

- 4   A)    select a most significant digit of the two digit binary number;  
5   B)    determine whether the selected digit of the binary number is zero or non-zero;  
6   C)    transmit a bit, during one slot interval, if the selected digit of the binary  
7           number is non-zero;  
8   D)    sense the communications medium, during one slot interval, if the selected  
9           digit of the binary number is zero;  
10   E)    cease to contend for packet transmission if another bit is detected while sensing the  
11           communications medium;  
12   F)    select a least significant digit of the binary number if another bit is not detected while  
13           sensing the communications medium or if the most significant digit of the  
14           binary number is non-zero;

15 G) perform steps B through E on the least significant digit if the least significant digit is  
16 selected.

1 15. The method of claim 1 wherein contending for packet transmission comprises:  
2 A) selecting a most significant digit of the binary number;  
3 B) determining whether the selected digit of the binary number is zero or non-zero;  
4 C) transmitting a bit, during one slot interval, if the selected digit of the binary  
5 number is non-zero;  
6 D) sensing the communications medium, during one slot interval, if the selected  
7 digit of the binary number is zero;  
8 E) ceasing to contend for packet transmission if another bit is detected while sensing the  
9 communications medium;  
10 F) selecting a next most significant digit of the binary number if another bit is not  
11 detected while sensing the communications medium or if the selected digit of  
12 the binary number is non-zero;  
13 G) repeating processes B through F for each digit of the binary number.

1 16. The article of manufacture of claim 9, wherein the machine readable instructions, that  
2 when executed by a machine, cause the machine to contend for packet transmission  
3 comprises machine readable instructions, that when executed, cause the machine to:  
4 A) select a most significant digit of the binary number;  
5 B) determine whether the selected digit of the binary number is zero or non-zero;  
6 C) transmit a bit, during one slot interval, if the selected digit of the binary  
7 number is non-zero;  
8 D) sense the communications medium, during one slot interval, if the selected  
9 digit of the binary number is zero;

- 10 E) cease to contend for packet transmission if another bit is detected while sensing the  
11 communications medium;
- 12 F) select a next most significant digit of the binary number if another bit is not detected  
13 while sensing the communications medium or if the selected digit of the  
14 binary number is non-zero;
- 15 G) repeat processes B through F for each digit of the binary number.

1 17. A method comprising:  
2 a first station selecting a packet;  
3 the first station determining a binary number corresponding to a priority of the selected  
4 packet, wherein the binary number comprises N digits;  
5 the first station transmitting the binary number over a communications medium;  
6 the first station sensing the communications medium to determine whether another station is  
7 transmitting another binary number.

1 18. The method of claim 17 wherein the first station transmits a bit for each digit of the  
2 binary number that is non-zero and senses the communications medium for each digit of the  
3 binary number that is zero.

1 19. The method of claim 18 wherein the binary number comprises two digits.

1 20. The method of claim 18 wherein the binary number comprises three digits.